



U. S. DEPARTMENT OF AGRICULTURE

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HEAVY WILD FOWL LOSSES RESULT OF REDUCED WATER AREAS

Chief of Biological Survey Suggests
Corrective Measures

Reduction in water areas in States west of the Mississippi is causing tremendous mortality among wild fowl, Dr. E. W. Nelson, chief of the United States Biological Survey said to-day (December 7) in an address before the National Game Conference of the American Game Protective Association in the Hotel Pennsylvania, New York. There is crowding of birds in the remaining lakes and marshes, the water of which through evaporation and concentration of alkaline contents seems to become poisonous to the wild fowl, Doctor Nelson explained. He declared the marshes that are drying up could be flooded at moderate expense, and thus converted from death traps into healthy resorts for birds.

"It is generally known," said Doctor Nelson, "that drainage and its direct or indirect effects seriously threaten the future supply of migratory wild fowl in all parts of the country. The most imminent of all dangers confronting these birds at present has developed in the States west of the Mississippi Valley. In this mainly arid region drainage, the diversion of water from streams for irrigation, and a rapid evaporation amounting to about 4 feet a year in some areas, combined with a period of scanty rainfall extending through the past 10 years, have resulted in the disappearance of numberless lakes, ponds, and marshes, covering many thousand square miles.

"These vanished water areas vary from small ponds to large areas like Goose Lake on the border between northeastern California and Oregon. Until within a few years this lake, about 15 by 40 miles in extent, covered an area of about 600 square miles and was about 25 feet deep in the middle. Its basin is now a bed of drifting dust. Tulare Lake in the San Joaquin Valley, California, providing about 250 square miles of ideal wild-fowl marshes, is now dry and its bed is occupied by ranches.

Buena Vista Lake, similar in character, a little farther south is also dry.

"There is reason to believe that with the return of rainy years Goose Lake and many other basins now dry will fill again. A remarkable indication of this was the discovery of an old well-marked wagon road crossing the bed of this lake from east to west which was revealed when it went dry. A return of wet seasons can not, however, be expected to restore conditions completely as they were formerly, for the West is being increasingly occupied and many permanent changes are taking place affecting its surface waters.

"Concentration of alkaline contents in the water in many areas has made the water poisonous to birds drinking it. This or possibly some yet undiscovered disease resulting from overcrowding has brought on an appalling mortality, not only among all wild ducks but to a lesser extent among geese. In addition it has caused an equally great death rate among all the species of sandpipers, snipe, and other waders, herons, gulls, blackbirds, and others that frequent marshes. This so-called disease occurs during the summer or fall months every year in varying intensity, causing heavy losses each season and every few years producing a frightful devastation among the bird life.

"The general symptoms of 'duck-sickness' are successive paralysis of the wings, legs, and necks of the birds, and the gradual development of a more or less comatose condition, followed by death. The development of these stages requires a period of several days. After the birds become helpless they may be gathered in great numbers, and when placed in an inclosure with fresh water nearly all recover in a few days and are able to fly away apparently entirely cured.

"Mr. D. H. Madsen, State Fish and Game Commissioner of Utah, estimates that in years when this 'sickness' is least prevalent in the Bear River Marshes the losses there run from 30,000 up to more than 100,000, while during the worst years they amount to between one and two million ducks, in addition to numberless birds of other species. The number of ducks which have perished from this sickness in Utah, since 1902, and mainly within the last 15 years, probably exceeds 10,000,000, and with the toll taken by this or allied causes elsewhere in the West, makes a total loss exceeding 15,000,000 ducks, and probably an equal loss has been suffered by other birds.

"Mr. F. C. Lincoln, of the Biological Survey, who spent several weeks banding wild fowl in the Utah marshes during the summer of 1926, had an opportunity to make interesting observations concerning the 'duck sickness.'

On June 29 in passing through a narrow channel on the grounds of the new State Gun Club near the mouth of the Jordan River, he saw at least 300 dead ducks. He gathered 50 helpless ducks and after banding them transferred them to an inclosure with fresh water. Of this number 26 were pintails, 11 green-winged teals, 5 mallards, 4 cinnamon teals, 2 spoonbills, 1 gadwall, and 1 redhead. Near Duckville, on the Bear River Marshes he found conditions vastly worse owing to the greater area involved.

"There one day he found 22 dead Canada geese, and captured 4 others which were helpless, but saved them by placing them in an inclosure with fresh water. In addition to vast numbers of ducks he found dead California gulls, great blue and snowy herons, avocets, black-necked stilts, sandpipers, Wilson phalaropes, glossy ibises, coots, and yellow-headed blackbirds. In one area not over 5 feet square he counted 8 recently dead ducks, and reports that the stench on this marsh from the decaying bodies of the ducks was almost overpowering. Owing to the vegetation on the marshes he could see only a limited number of the dead ducks and is confident that at that time tens of thousands of birds had already perished there, although his observations were made only at the beginning of the season and the most serious losses came later.

"Perfectly practicable ways are available to relieve the situation on a great scale. A visit to the Bear River marshes in October revealed to me the most gratifying fact that a very considerable quantity of fresh water is being discharged by Bear River through the marshes into Salt Lake and that by building dikes from 15 to 18 miles in length this can be held back to flood about 150 square miles of marsh. This will convert this area from a terrible death trap to bird life into a wonderful feeding and breeding ground for innumerable wild fowl. The Bear River Hunting Club has already diked and flooded about 8,000 acres of marsh lands in this district, and great numbers of waterfowl are rearing their young there each year. With these marshes converted into a healthy resort for the birds instead of becoming a ghastly death trap for them it would add tens of thousands of birds bred there each year to the supply and would give a resting and feeding ground for myriads of birds on their migrations north and south. The cost of this project would be about \$300,000. Similar work is possible in other areas.

"In spite of the fact that the ducks of the States west of the 100th meridian have been greatly decreased through the terrible losses previously described, yet plenty of birds survive to bring back their numbers whenever the conditions are so changed that the birds will not be annually destroyed."

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